

**IN THE DRAWINGS:**

The attached sheet of drawings includes changes to FIGS. 13 and 15. These sheets replace the original sheets for FIGS. 13 and 15.

**REMARKS**

Claims 1-10 are pending in this application, of which claims 1 and 3-10 have been amended. Claim 2 has been canceled. No new claims have been added.

The Examiner has requested that FIGS. 13 and 15 be labeled as "Prior Art."

Accordingly, submitted herewith are replacement drawing sheets of FIGS. 13 and 15 labeling the drawings as "Prior Art".

The Examiner has objected to the disclosure for failing to list FIGS. 12A, 12B and 12C in the specification.

Accordingly, the specification has been amended to list FIGS. 12A, 12B and 12C.

Claims 5 and 8 stand rejected under 35 U.S.C. § 112, second paragraph, as indefinite.

Accordingly, claims 5 and 8 have been amended to correct the noted instances of indefiniteness.

Thus, the 35 U.S.C. § 112, second paragraph, rejection should be withdrawn.

Before turning to the cited references, a brief review of the claimed invention is in order.

Claim 1, as amended, recites that the second connecting portion is positioned in the terminal connecting socket, in order to improve solder wettability of the second connecting portion to the terminal connecting socket.

Claims 1-3 stand rejected under 35 U.S.C. § 103(a) as unpatentable over JP 2001-43914 to Sawada (hereafter, "**Sawada**").

Applicants respectfully traverse this rejection.

FIGS. 2-3 of Sawada appear to show a circuit board connector having a first connection portion 26 and a lead portion 29 formed at right angles to first connection portion 26. The end of the lead portion has a second connector portion shaped in an open letter "C" shape. However, in FIG. 3, the letter "C" shape is not arranged transversely and the Examiner has admitted that Sawada does not disclose "the second connection portion being formed into a shape having an annular transverse cross section." The Examiner urges, however that:

...it would have been obvious to one skilled in the art to modify the shape of the second connection portion of Sawada to be an annular shape to meet the specific use of the resulting connector since it has been held that merely changing the shape of a component is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237.

Applicants respectfully disagree.

Because the C-shape of the second connector portion includes a bending of the material in the longitudinal direction, as shown in FIG. 3 of Sawada, it would not be possible to then bend the material again in the transverse direction to form an annular transverse cross section, as recited in claim 1 of the instant application.

Furthermore, FIG. 1 of Sawada shows that the turn portion 30 is positioned outside the through-hole 11. The cut surface 29 has no plating layer of the terminal material 25 located in the through-hole 11. Thus, there is no suggestion in Sawada to improve solder wettability of the turn portion 30 to the through-hole 11.

In the present invention, solder wettability of the second connecting portion to the terminal connecting socket is improved by positioning the second connecting portion in the

terminal connecting socket where the cut surfaces at both edges of the second connecting portion are opposed to each other.

Therefore, the present invention and Sawada differ from each other not only in construction but also in subject matter.

Accordingly, claim 1 has been amended to recite that the second circuit board has a terminal connecting socket; that the second connecting portion is connected to the terminal connecting socket; that the second connecting portion is positioned in the terminal connecting socket; and that the cut surfaces at both edges of the second connecting portion oppose each other.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sawada in view of U.S. Patent Application Publication US 2003/0017735 to Singh (hereafter, "Singh").

Applicants respectfully traverse this rejection.

FIG. 4 of Singh discloses a lead portion having a C-shaped or C-shaped transverse cross section, and merely shows a shape of the lead portion, but does not show the construction of the second connecting portion being positioned in the terminal connecting socket, as recited in claim 1, as amended, of the instant application

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Sawada in view of U.S. Patent 4,150,355 to Neff et al. (hereafter, "Neff et al.").

Applicants respectfully traverse this rejection.

The Examiner has urged that Neff et al. discloses a connector (FIGS. 2-3) comprising a connection portion having an annular transverse cross section with the cut surfaces being located inside the annular cross-sectional shape and that it would be obvious to combine the teachings of Neff et al. with those of Sawada to teach the present invention.

Applicants respectfully disagree. Neff et al. is directed to an electrical splice for a wire wound resistor, where the resistor is round in cross section. This is unrelated to the present invention, in which a circuit board connector has a second connection portion having an annular transverse cross section where the cut surfaces are located inside the annular cross-sectional shape, as shown in FIGS. 8-9 of the instant application. Thus, it would not be obvious to combine the electrical splice construction of Neff et al. and the teaching of Sawada to teach the present invention.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Sawada in view of Neff et al. and further in view of Singh.

Applicants respectfully traverse this rejection.

As noted above, Neff et al. is not combinable with either Sawada or Singh because Neff et al. is from another field of endeavor unrelated to the circuit board connector of the claimed invention.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claims 1 and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 3,897,992 to Weidler (hereafter, "**Weidler**") in view of **Sawada**.

Applicants respectfully traverse this rejection.

**Weidler** discloses a crimpable barrel, usually with a serrated, buried or other type irregular shaped inner surface that is crimped around a piece of elastomeric material after a fine wire has been layered in between the elastomeric material on the inner surface of the barrel. This type crimp connection will break away the varnish or shellac type insulation on the fine wire and make good electrical connection with the barrel, without breaking or appreciably damaging the structural strength of the wire.

**Weidler** is directed to a crimping connector which connects fine wires 20, 21 and stranded wire 22, as shown in FIGS. 4 and 5.

**Weidler**, like **Neff et al.** discussed above, is not directed to the same field of endeavor as the present invention and it would therefore not be obvious to combine the teachings of **Sawada** with those of **Weidler** to teach the present invention.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claims 6 and 10 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent 6,305,949 to Okuyama et al. (hereafter, "**Okuyama et al.**") in view of **Neff et al.**

Applicants respectfully traverse this rejection.

**Okuyama et al.** discloses a press-fit pin for use with a printed circuit board assembly consisting of two opposed printed circuit boards, the press-fit pin having an upper first press-fit

section and a lower second press-fit section. The first press-fit section and the second press-fit section are disposed so that the first press-fit section enters the first through-hole in the first printed circuit board before the second press-fit section enters the second through-hole in the second printed circuit board.

The Examiner has admitted that **Okuyama et al.** fails to disclose the second connection portion (1b) having an annular transverse cross section with the cut surfaces being located inside the annular cross-sectional shape, but has cited **Neff et al.** for teaching this feature.

As noted above, **Neff et al.** does not relate to circuit board connectors and therefore cannot be combined with the teachings of **Okuyama et al.** to teach the present invention.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1-10, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. **10/537,436**  
Response to Office Action dated November 18, 2005

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Enclosures: Replacement Sheets of Drawing (FIGS. 13 and 15 )  
Petition for Extension of Time  
Check in the amount of \$120.00

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